

CLAIMS

5 1. A network processing device, comprising:

 packet processing circuitry adapted to receive an address request from any one of
multiple processors in the network processing device, the packet processing circuitry adapted
to output the address request to a network and to receive an address reply to the address
request; and

10 the packet processing circuitry adapted to multicast the address reply to multiple ones
of the processors at the same time.

2. A network processing device according to claim 1 wherein one or more of the
multiple processors provide address resolution management that matches IP addresses with
15 Media Access Control (MAC) addresses.

3. A network processing device according to claim 1 wherein the packet
processing circuitry is located in a line card and the multiple CPUs are located in one or more
control cards.

20 4. A network processing device according to claim 1 wherein the address request
comprises an Address Resolution Protocol (ARP) request and the address reply comprises an
Address Resolution Protocol (ARP) reply.

25 5. A network processing device according to claim 1 including address tables
associated with each of the multiple processors, the processors in parallel each adding an IP

5 address and associated Media Access Control address to the associated address tables
received in the multicast address reply.

6. A network processing device according to claim 1 wherein the packet
processing circuitry converts the address reply from one or more unicast packets to one or
10 more multicast packets and sends the multicast packets to each of the processors at the same
time.

7. A network processing device according to claim 1 including a switch fabric
coupled between the packet processing circuitry and the processors, the switch fabric
15 including separate egress ports for separately sending the same address reply to each one of
the processors.

8. A method for updating addresses, comprising:
sending the packet out with the first address to another network device;
20 receiving an address request from one or more of the applications or processors for a
second address associated with the first address;
sending the address request over a network;
receiving an address reply from the network identifying the second address associated
with the first address; and
25 broadcasting the address reply to multiple ones of the applications or processors at the
same time.

5 9. A method according to claim 8 including using an Address Resolution Protocol (ARP) to send the address request and receive the address reply.

10 10. A method according to claim 9 including broadcasting the ARP reply to the multiple applications or processors by designating the ARP reply packets as multicast packets.

15 11. A method according to claim 8 including individually updating address tables associated with each one of the applications or processors with the second address from the second address from the address reply.

20 12. A method according to claim 8 wherein the first address is an Internet Protocol address and the second address is a Media Access Control (MAC) address.

25 13. A method according to claim 8 including broadcasting the address reply from a line card in a network processing device to the multiple applications or processors in one or more control cards in the same network processing device

 14. A method according to claim 8 including receiving the packet with the first address from an IP network and sending the address request to endpoints in an Ethernet network.

 15. A network processing device, comprising:
multiple processors for controlling operations in the network processing device; and

5 packet processing circuitry adapted to detect unicast control packets from a network and convert the unicast control packets into a multicast control packets that are relayed in parallel to the multiple processors at the same time.

16. A network processing device according to claim 15 wherein the control
10 packets comprise address resolution protocol packets.

17. A network processing device according to claim 16 including multiple
network interfaces each coupled to different ports and adapted to detect replies to address
resolution request s and broadcast the detected relies to the multiple processors.

18. A network processing device according to claim 16 including address tables
associated with each one of the multiple processors, the processors updating the associated
address tables with an address contained in the address resolution protocol packets reply
multicast from the packet processing circuitry.

19. A network processing device according to claim 15 including a switch fabric
having individual egress ports coupled to each one of the multiple processors, each one of the
egress ports sending control packets from the packet processing circuitry in parallel to the
multiple processors at the same time.